

09/830193

and the invention also relates to novel compounds of formula I and to a method of screening a surface from ultraviolet radiation.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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(FILE 'HOME' ENTERED AT 12:06:56 ON 22 SEP 2003)

FILE 'USPATFULL' ENTERED AT 12:07:21 ON 22 SEP 2003

L1 127629 S SUNSCREEN? OR UV  
L2 2960 S CAROTENOID?  
L3 1152 S L1 AND L2  
L4 941 S POLYPHENOLIC  
L5 8 S L3 AND L4  
L6 1 S US5712311/PN  
L7 1 S L6 AND L2  
L8 0 S L4 AND L7  
L9 7 S SCYTONEMIN  
L10 122030 S AMINO ACID?  
L11 0 S L10 AND L6  
L12 1 S US5422247/PN  
L13 1 S US3920834/PN  
L14 1 S L12 AND L2  
L15 1 S L13 AND L2  
L16 0 S L10 AND L15  
L17 0 S L13 AND L10  
L18 1 S L12 AND L10  
L19 45380 S TRYPTOPHAN? OR TYROSINE?  
L20 404 S L3 AND L19  
L21 0 S L20 AND L9  
L22 7 S L9 AND L1  
L23 2 S L4 AND L20  
L24 0 S L4 AND L12  
L25 3 S MYCOSPORINE?  
L26 3 S L25 AND L1  
L27 0 S L5 AND L9  
L28 0 S PHENOLIC AND L12  
L29 10772 S ALGAE  
L30 249499 S ALGAE? OR PLANT?  
L31 1 S L30 AND L12  
L32 1227 S CYANOBACTERI?  
L33 1 S L32 AND L12  
L34 7 S L1 AND L9  
L35 4 S L2 AND L34  
L36 1 S US5508026/PN  
L37 1 S L36 AND L1  
L38 1 S L37 AND L2  
L39 1 S L38 AND L9  
L40 0 S L10 AND L39  
L41 1 S L12 AND L10

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NEWS	1		Web Page URLs for STN Seminar Schedule - N. America
NEWS	2		"Ask CAS" for self-help around the clock
NEWS	3	SEP 09	CA/CAPLUS records now contain indexing from 1907 to the present
NEWS	4	Jul 15	Data from 1960-1976 added to RDISCLOSURE
NEWS	5	Jul 21	Identification of STN records implemented
NEWS	6	Jul 21	Polymer class term count added to REGISTRY
NEWS	7	Jul 22	INPADOC: Basic index (/BI) enhanced; Simultaneous Left and Right Truncation available
NEWS	8	AUG 05	New pricing for EUROPATFULL and PCTFULL effective August 1, 2003
NEWS	9	AUG 13	Field Availability (/FA) field enhanced in BEILSTEIN
NEWS	10	AUG 15	PATDPAFULL: one FREE connect hour, per account, in September 2003
NEWS	11	AUG 15	PCTGEN: one FREE connect hour, per account, in September 2003
NEWS	12	AUG 15	RDISCLOSURE: one FREE connect hour, per account, in September 2003
NEWS	13	AUG 15	TEMA: one FREE connect hour, per account, in September 2003
NEWS	14	AUG 18	Data available for download as a PDF in RDISCLOSURE
NEWS	15	AUG 18	Simultaneous left and right truncation added to PASCAL
NEWS	16	AUG 18	FROSTI and KOSMET enhanced with Simultaneous Left and Right Truncation
NEWS	17	AUG 18	Simultaneous left and right truncation added to ANABSTR
NEWS	18	SEP 22	DIPPR file reloaded
NEWS EXPRESS			April 4 CURRENT WINDOWS VERSION IS V6.01a, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 01 APRIL 2003
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NEWS WWW			CAS World Wide Web Site (general information)

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COST IN U.S. DOLLARS

SINCE FILE	TOTAL
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0.21	0.21

FULL ESTIMATED COST

FILE 'USPATFULL' ENTERED AT 12:07:21 ON 22 SEP 2003  
CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 18 Sep 2003 (20030918/PD)  
FILE LAST UPDATED: 18 Sep 2003 (20030918/ED)  
HIGHEST GRANTED PATENT NUMBER: US6622308  
HIGHEST APPLICATION PUBLICATION NUMBER: US2003177560  
CA INDEXING IS CURRENT THROUGH 18 Sep 2003 (20030918/UPCA)  
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 18 Sep 2003 (20030918/PD)  
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Aug 2003  
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Aug 2003

>>> USPAT2 is now available. USPATFULL contains full text of the <<<  
>>> original, i.e., the earliest published granted patents or <<<  
>>> applications. USPAT2 contains full text of the latest US <<<  
>>> publications, starting in 2001, for the inventions covered in <<<  
>>> USPATFULL. A USPATFULL record contains not only the original <<<  
>>> published document but also a list of any subsequent <<<  
>>> publications. The publication number, patent kind code, and <<<  
>>> publication date for all the US publications for an invention <<<  
>>> are displayed in the PI (Patent Information) field of USPATFULL <<<  
>>> records and may be searched in standard search fields, e.g., /PN, <<<  
>>> /PK, etc. <<<

>>> USPATFULL and USPAT2 can be accessed and searched together <<<  
>>> through the new cluster USPATALL. Type FILE USPATALL to <<<  
>>> enter this cluster. <<<  
>>> <<<  
>>> Use USPATALL when searching terms such as patent assignees, <<<  
>>> classifications, or claims, that may potentially change from <<<  
>>> the earliest to the latest publication. <<<

This file contains CAS Registry Numbers for easy and accurate  
substance identification.

=> s sunscreen? or uv  
6010 SUNSCREEN?  
124293 UV  
L1 127629 SUNSCREEN? OR UV

=> s carotenoid?  
L2 2960 CAROTENOID?

=> s l1 and l2  
L3 1152 L1 AND L2

=> s polyphenolic  
L4 941 POLYPHENOLIC

=> s l3 and l4  
L5 8 L3 AND L4

=> d 1-8 ibib abs

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L5 ANSWER 1 OF 8 USPATFULL on STN

ACCESSION NUMBER: 2002:322572 USPATFULL  
TITLE: Methods to measure lipid antioxidant activity  
INVENTOR(S): Aldini, Giancarlo, Milan, ITALY  
Yeum, Kyung-Jin, Winchester, MA, UNITED STATES  
PATENT ASSIGNEE(S): TRUSTEES OF TUFTS COLLEGE (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002182736	A1	20021205
APPLICATION INFO.:	US 2002-114181	A1	20020402 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-280920P	20010402 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	NUTTER MCCLENNEN & FISH LLP, WORLD TRADE CENTER WEST, 155 SEAPORT BOULEVARD, BOSTON, MA, 02210-2604	
NUMBER OF CLAIMS:	43	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	14 Drawing Page(s)	
LINE COUNT:	2200	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides a selective method for measuring lipid antioxidant activity within a lipid compartment of a sample using lipophilic radical generators and oxidizable lipophilic indicators. The present invention accurately and efficiently determines the total antioxidant activity of a sample in both lipid and aqueous compartments. The methods of the invention can be used for diagnosing and protecting against disorders that arise from excess free radicals present in a subject. The reagents used in the methods of the invention can also be provided in a kit assay.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 2 OF 8 USPATFULL on STN

ACCESSION NUMBER: 2002:99102 USPATFULL  
TITLE: Directed evolution of biosynthetic and biodegradation pathways  
INVENTOR(S): Schmidt-Dannert, Claudia, Shoreview, MN, UNITED STATES  
Arnold, Frances H., Pasadena, CA, UNITED STATES  
PATENT ASSIGNEE(S): CALIFORNIA INSTITUTE OF TECHNOLOGY (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002051998	A1	20020502
APPLICATION INFO.:	US 2000-733759	A1	20001208 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1999-169594P	19991208 (60)
	US 2000-211894P	20000614 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	DARBY & DARBY P.C., 805 Third Avenue, New York, NY, 10022	
NUMBER OF CLAIMS:	31	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	13 Drawing Page(s)	
LINE COUNT:	4167	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to engineering new biosynthetic pathways into microorganisms, in particular biosynthetic **carotenoid** pathways. New and improved catalytic functions of metabolic pathways are created by, for example, site-specific mutation or gene shuffling techniques, to provide for efficient biosynthesis of **carotenoids**. By applying the described directed evolution techniques, almost any **carotenoid** could be produced, in a host cell, from one or a few sets of genes. In addition, the described techniques are useful for creating gene or protein libraries for new and uncharacterized **carotenoids**.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 3 OF 8 USPATFULL on STN

ACCESSION NUMBER: 2002:95749 USPATFULL  
 TITLE: Cleaning compositions comprising a specific oxygenase  
 INVENTOR(S): Herbots, Ivan Maurice Alfons Jan, Procter & Gamble  
 Eurocor N.V. 100Temselaan, B-1853 Strombeek-Bever,  
 BELGIUM  
 Barnabas, Mary Vijayarani, The Procter & Gamble  
 Company, Miami Valley Labs. 11810 E. Miami River Rd.,  
 Cincinnati, OH, United States 45061  
 Bettiol, Jean-Luc Philippe, Procter & Gamble Eurocor  
 N.V. 100 Temselaan, B-1853 Strombeek-Bever, BELGIUM  
 Busch, Alfred, Procter & Gamble Eurocor N.V. 100  
 Temselaan, B-1853 Strombeek-Bever, BELGIUM

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6380145	B1	20020430
	WO 9902639		19990121
APPLICATION INFO.:	US 2000-462559		20000110 (9)
	WO 1997-US12439		19970709
			20000110 PCT 371 date
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Gupta, Yogendra N.		
ASSISTANT EXAMINER:	Elhilo, Eisa		
NUMBER OF CLAIMS:	29		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)		
LINE COUNT:	2894		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to cleaning compositions, including laundry, fabric care, dishwashing, hard surface cleaner, oral/dental cleaning compositions, comprising a polyphenol/heterocyclic substrate based oxygenase, which provide effective and efficient cleaning of coloured and everyday body stains and/or soils and provides sanitisation of the treated surfaces. Furthermore, the cleaning compositions of the present invention provide fabric realistic items cleaning and whitening performance while providing excellent fabric colour safety when formulated as a laundry detergent composition.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 4 OF 8 USPATFULL on STN

ACCESSION NUMBER: 2002:31986 USPATFULL  
 TITLE: Compositions and methods for improving vascular health  
 INVENTOR(S): Schmitz, Harold H., Branchburg, NJ, UNITED STATES  
 Chevaux, Kati A., Seattle, WA, UNITED STATES  
 Dombroski, Amy, Stanhope, NJ, UNITED STATES  
 Jerome, Ralph, Blairstown, NJ, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002018807	A1	20020214
	US 6610320	B2	20030826
APPLICATION INFO.:	US 2001-829782	A1	20010410 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-197135P	20000414 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Clifford Chance Rogers & Wells LLP, 200 Park Avenue, New York, NY, 10166-0153	
NUMBER OF CLAIMS:	43	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	8 Drawing Page(s)	
LINE COUNT:	1579	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB This invention relates to compositions containing polyphenols, for example, cocoa polyphenols such as procyanidins, in combination with at least one cholesterol lowering agent, and methods for improving vascular health including treating and preventing atherosclerosis and cardiovascular disease.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 5 OF 8 USPATFULL on STN

ACCESSION NUMBER: 2000:168053 USPATFULL  
 TITLE: 6',7'-dihydroxybergamottin, a cytochrome P450 inhibitor  
 in grapefruit  
 INVENTOR(S): Edwards, David J., LaSalle, Canada  
 Woster, Patrick M., Canton, MI, United States  
 PATENT ASSIGNEE(S): Wayne State University, Detroit, MI, United States  
 (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6160006		20001212
APPLICATION INFO.:	US 1997-951330		19971016 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1996-28961P	19961018 (60)
	US 1997-54332P	19970624 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Richter, Johann	
ASSISTANT EXAMINER:	Solola, Taofiq A.	
LEGAL REPRESENTATIVE:	Lahive & Cockfield, LLP	
NUMBER OF CLAIMS:	25	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	6 Drawing Figure(s); 3 Drawing Page(s)	
LINE COUNT:	1149	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides a composition and methods for inhibiting cytochrome P450 enzyme activity and in particular, inhibiting the activity of the cytochrome P450 3A sub-family of enzymes, specifically, CYP3A4. The present invention provides 6',7'-dihydroxybergamottin, a furanocoumarin, as the compound primarily responsible for the inhibitory effects of grapefruit juice on cytochrome P450 enzyme activity. The present invention also provides a novel synthesis scheme for

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6',7'-dihydroxybergamottin.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 6 OF 8 USPATFULL on STN

ACCESSION NUMBER: 2000:121077 USPATFULL

TITLE: Use of compositions comprising stabilized biologically effective compounds

INVENTOR(S): Edens, Luppo, Rotterdam, Netherlands  
Tan, Hong Sheng, Bleiswijk, Netherlands  
Lambers, Johannes Wilhelmus Jacobus, Pijnacker, Netherlands

PATENT ASSIGNEE(S): DSM N.V., Te Heerlen, Netherlands (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6117433		20000912
	WO 9727841		19970807
APPLICATION INFO.:	US 1998-930685		19980428 (8)
	WO 1997-EP507		19970131
			19980408 PCT 371 date
			19980408 PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	EP 1996-200190	19960131
	EP 1996-200594	19960308
	EP 1996-201713	19960621
	EP 1996-202781	19961003
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Levy, Neil S.	
LEGAL REPRESENTATIVE:	Morrison & Foerster LLP	
NUMBER OF CLAIMS:	26	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	3 Drawing Figure(s); 3 Drawing Page(s)	
LINE COUNT:	1319	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A dual chambered dispensing system allows for application of an aqueous composition containing a biologically effective compound which is adequately stabilized. The system separately contains the stabilized biologically effective compound composition in one chamber and an aqueous basic composition in the other. Both compositions are simultaneously delivered from the dispensing system, whereupon the compositions are mixed to result in a final composition suitable for direct application.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 7 OF 8 USPATFULL on STN

ACCESSION NUMBER: 2000:101887 USPATFULL

TITLE: Dry composition containing flavonol useful as a food supplement

INVENTOR(S): Howard, Alan Norman, Cambridge, United Kingdom  
Nigdikar, Shailja Vijay, Suffolk, United Kingdom  
Rajput-Williams, Jayshri, Cambridge, United Kingdom  
Williams, Norman Ross, Cambridgeshire, United Kingdom

PATENT ASSIGNEE(S): The Howard Foundation, Cambridge, United Kingdom (non-U.S. corporation)

NUMBER	KIND	DATE
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PATENT INFORMATION: US 6099854 20000808  
APPLICATION INFO.: US 1997-934055 19970919 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	GB 1996-19700	19960920
	GB 1997-11171	19970531
	GB 1997-11172	19970531
	GB 1997-11173	19970531
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Page, Thurman K.	
ASSISTANT EXAMINER:	Faulkner, D.	
LEGAL REPRESENTATIVE:	Pillsbury Madison & Sutro LLP	
NUMBER OF CLAIMS:	19	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	6 Drawing Figure(s); 2 Drawing Page(s)	
LINE COUNT:	1544	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A flavonol-containing dry composition derived from wine and useful as a food supplement is provided wherein at least 25% of the composition derived from wine includes polyphenols and at least 1.0% w/w of the composition is flavonol.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 8 OF 8 USPATFULL on STN

ACCESSION NUMBER: 2000:87741 USPATFULL  
TITLE: Food supplements  
INVENTOR(S): Howard, Alan Norman, Cambridge, United Kingdom  
Nigdikar, Shailja Vijay, Suffolk, United Kingdom  
Rajput-Williams, Jayshri, Cambridge, United Kingdom  
Williams, Norman Ross, Cambridgeshire, United Kingdom  
PATENT ASSIGNEE(S): The Howard Foundation, Cambridge, United Kingdom  
(non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6086910		20000711
APPLICATION INFO.:	US 1997-978158		19971125 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1997-934055, filed on 19 Sep 1997		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	MacMillan, Keith D.		
ASSISTANT EXAMINER:	Faulkner, D.		
LEGAL REPRESENTATIVE:	Pillsbury Madison & Sutro		
NUMBER OF CLAIMS:	25		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	6 Drawing Figure(s); 2 Drawing Page(s)		
LINE COUNT:	1561		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed is a flavonol-containing dry composition suitable for human consumption, together with uses thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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L6 1 US5712311/PN



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L5 8 S L3 AND L4  
L6 1 S US5712311/PN

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L7 1 L6 AND L2

=> s l4 and l7

L8 0 L4 AND L7

=> d kwic l7

L7 ANSWER 1 OF 1 USPATFULL on STN

TI Cosmetic or dermatological composition with controlled release of active principle containing a photoconvertible **carotenoid**

PI US 5712311 19980127 <--

AB The invention relates to a cosmetic or dermatological composition with controlled release of active principle containing at least photoconvertible **carotenoid**, capable of being converted to retinol and retinoic acid or its isomers, of following formula (I):  
##STR1## in which the. . .

SUMM The present invention relates to the use of a photoconvertible **carotenoid** for protecting the skin against photoaging and for preventing acne and to a cosmetic or dermatological composition with controlled release of active principle containing a photoconvertible **carotenoid**.

SUMM . . . retinol and retinoic acid and its isomers, could be released on the skin in a controlled way by photoconversion of **carotenoids** via hydrophilic activated forms of oxygen.

SUMM The subject of the present invention is therefore the use of a photoconvertible **carotenoid** of formula: ##STR3## in which the R.sub.1 and R.sub.2 substituents denote one of the following groups: ##STR4## at least one. . .

SUMM The **carotenoid** of formula (I) is more particularly chosen from .beta.-carotene, .alpha.-carotene, .gamma.-carotene, canthaxanthin, lutein, zeaxanthin and astaxanthin.

SUMM The photoconvertible **carotenoids** of formula (I) used according to the invention are precursors of retinoids which, under the effect of an "oxidative stress", . . .

SUMM . . . subject of the invention is a cosmetic or dermatological composition with controlled release of active principle containing at least one **carotenoid** capable of being converted to retinol and retinoic acid and its isomers having the formula (I) above.

SUMM . . . to the invention contains 0.0001 to 10% by weight, and preferably 0.0001 to 5% by weight, of at least one **carotenoid** of formula (I) as defined above, in a cosmetically or dermatologically acceptable medium.

SUMM Another subject of the present invention is the use of a photoconvertible **carotenoid** of formula (I) as defined above for the manufacture of a cosmetic or dermatological composition intended for the prevention of. . .

CLM What is claimed is:

. . . of protecting it against photoaging which comprises applying to the skin an effective amount for protecting it of a photoconvertible

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**carotenoid** capable of being converted to retinol and retinoic acid or its isomers of formula: ##STR5## in which the R.sub.1 and . . .  
3. The process of claim 1 wherein the photoconvertible **carotenoid** of formula (I) is selected from the group consisting of .beta.-carotene, .alpha.-carotene, .gamma.-carotene, canthaxanthin, lutein, zeaxanthin and astaxanthin.

4. A cosmetic or dermatological composition with controlled release of active principle, which contains at least one photoconvertible **carotenoid**, capable of being converted to retinol and retinoic acid or its isomers, of following formula (I): ##STR7## in which the . . .

. . . A process for the prevention or control of acne which comprises applying to the skin an effective amount of a **carotenoid** of formula: ##STR9## in which the R.sub.1 and R.sub.2 substituents denote one of the following groups: ##STR10## at least one. . .

16. The process of claim 14, wherein the **carotenoid** is selected from the group consisting of .beta.-carotene, .alpha.-carotene, .gamma.-carotene, canthaxanthin, lutein, zeaxanthin and astaxanthin.

=> s scytonemin  
L9 7 SCYTONEMIN

=> s amino acid?  
271907 AMINO  
704293 ACID?  
L10 122030 AMINO ACID?  
(AMINO(W)ACID?)

=>

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L7 1 S L6 AND L2  
L8 0 S L4 AND L7  
L9 7 S SCYTONEMIN  
L10 122030 S AMINO ACID?

=> s l10 and l6  
L11 0 L10 AND L6

=> s us5422247/pn  
L12 1 US5422247/PN

=> s us3920834/pn  
L13 1 US3920834/PN

=> s l12 and l2  
L14 1 L12 AND L2

=> s l13 and l2

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L15 1 L13 AND L2

=> s l10 and l15

L16 0 L10 AND L15

=> s l13 and l10

L17 0 L13 AND L10

=> s l12 and l10

L18 1 L12 AND L10

=> d kwic

L18 ANSWER 1 OF 1 USPATFULL on STN

PI US 5422247 19950606

DETD . . . hydrolysates, microbial biomass hydrolysates, soy meal, fish meal, meat meal, meat extract, peptone, tryptone, corn steep liquor, yeast extract, and **amino acids**. <--

=> s tryptophan? or tyrosine?

27896 TRYPTOPHAN?

37319 TYROSINE?

L19 45380 TRYPTOPHAN? OR TYROSINE?

=> d his

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L1 127629 S SUNSCREEN? OR UV

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L8 0 S L4 AND L7

L9 7 S SCYTONEMIN

L10 122030 S AMINO ACID?

L11 0 S L10 AND L6

L12 1 S US5422247/PN

L13 1 S US3920834/PN

L14 1 S L12 AND L2

L15 1 S L13 AND L2

L16 0 S L10 AND L15

L17 0 S L13 AND L10

L18 1 S L12 AND L10

L19 45380 S TRYPTOPHAN? OR TYROSINE?

=> s l3 and l19

L20 404 L3 AND L19

=> s s l20 and l9

MISSING OPERATOR S L20

The search profile that was entered contains terms or nested terms that are not separated by a logical operator.

=> s l20 and l9

L21 0 L20 AND L9

=> s l9 and l1

09/830193

L22 7 L9 AND L1

=> s 14 and 120

L23 2 L4 AND L20

=> d 1-2 ibib abs

L23 ANSWER 1 OF 2 USPATFULL on STN

ACCESSION NUMBER: 2002:99102 USPATFULL

TITLE: Directed evolution of biosynthetic and biodegradation pathways

INVENTOR(S): Schmidt-Dannert, Claudia, Shoreview, MN, UNITED STATES  
Arnold, Frances H., Pasadena, CA, UNITED STATES

PATENT ASSIGNEE(S): CALIFORNIA INSTITUTE OF TECHNOLOGY (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002051998	A1	20020502
APPLICATION INFO.:	US 2000-733759	A1	20001208 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1999-169594P	19991208 (60)
	US 2000-211894P	20000614 (60)

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: DARBY & DARBY P.C., 805 Third Avenue, New York, NY, 10022

NUMBER OF CLAIMS: 31

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 13 Drawing Page(s)

LINE COUNT: 4167

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to engineering new biosynthetic pathways into microorganisms, in particular biosynthetic **carotenoid** pathways. New and improved catalytic functions of metabolic pathways are created by, for example, site-specific mutation or gene shuffling techniques, to provide for efficient biosynthesis of **carotenoids**. By applying the described directed evolution techniques, almost any **carotenoid** could be produced, in a host cell, from one or a few sets of genes. In addition, the described techniques are useful for creating gene or protein libraries for new and uncharacterized **carotenoids**.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L23 ANSWER 2 OF 2 USPATFULL on STN

ACCESSION NUMBER: 2002:95749 USPATFULL

TITLE: Cleaning compositions comprising a specific oxygenase

INVENTOR(S): Herbots, Ivan Maurice Alfons Jan, Procter & Gamble  
Eurocor N.V. 100Temselaan, B-1853 Strombeek-Bever, BELGIUM

Barnabas, Mary Vijayarani, The Procter & Gamble Company, Miami Valley Labs. 11810 E. Miami River Rd., Cincinnati, OH, United States 45061  
Bettiol, Jean-Luc Philippe, Procter & Gamble Eurocor N.V. 100 Temselaan, B-1853 Strombeek-Bever, BELGIUM  
Busch, Alfred, Procter & Gamble Eurocor N.V. 100 Temselaan, B-1853 Strombeek-Bever, BELGIUM

NUMBER	KIND	DATE
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09/830193

PATENT INFORMATION: US 6380145 B1 20020430  
WO 9902639 19990121  
APPLICATION INFO.: US 2000-462559 20000110 (9)  
WO 1997-US12439 19970709  
20000110 PCT 371 date

DOCUMENT TYPE: Utility  
FILE SEGMENT: GRANTED  
PRIMARY EXAMINER: Gupta, Yogendra N.  
ASSISTANT EXAMINER: Elhilo, Eisa  
NUMBER OF CLAIMS: 29  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 0 Drawing Figure(s); 0 Drawing Page(s)  
LINE COUNT: 2894

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to cleaning compositions, including laundry, fabric care, dishwashing, hard surface cleaner, oral/dental cleaning compositions, comprising a polyphenol/heterocyclic substrate based oxygenase, which provide effective and efficient cleaning of coloured and everyday body stains and/or soils and provides sanitisation of the treated surfaces. Furthermore, the cleaning compositions of the present invention provide fabric realistic items cleaning and whitening performance while providing excellent fabric colour safety when formulated as a laundry detergent composition.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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(FILE 'HOME' ENTERED AT 12:06:56 ON 22 SEP 2003)

FILE 'USPATFULL' ENTERED AT 12:07:21 ON 22 SEP 2003

L1 127629 S SUNSCREEN? OR UV  
L2 2960 S CAROTENOID?  
L3 1152 S L1 AND L2  
L4 941 S POLYPHENOLIC  
L5 8 S L3 AND L4  
L6 1 S US5712311/PN  
L7 1 S L6 AND L2  
L8 0 S L4 AND L7  
L9 7 S SCYTONEMIN  
L10 122030 S AMINO ACID?  
L11 0 S L10 AND L6  
L12 1 S US5422247/PN  
L13 1 S US3920834/PN  
L14 1 S L12 AND L2  
L15 1 S L13 AND L2  
L16 0 S L10 AND L15  
L17 0 S L13 AND L10  
L18 1 S L12 AND L10  
L19 45380 S TRYPTOPHAN? OR TYROSINE?  
L20 404 S L3 AND L19  
L21 0 S L20 AND L9  
L22 7 S L9 AND L1  
L23 2 S L4 AND L20

=> s l4 and l12

L24 0 L4 AND L12

=> s mycosporine?

L25 3 MYCOSPORINE?

09/830193

=> s 125 and 11  
L26 3 L25 AND L1

=> d 1-3 ibib abs

L26 ANSWER 1 OF 3 USPATFULL on STN

ACCESSION NUMBER: 2003:37219 USPATFULL

TITLE: Process for the preparation of an extract with  
carotenoids, **UV** absorption, antibacterial and  
pH indicating properties from a deep-sea bacterium  
INVENTOR(S): Bharathi, Ponnappakkam Adikesavan Loka, Dona Paula,  
INDIA

Nair, Shanta, Dona Paula, INDIA

Chandramohan, Dorairajasingham, Dona Paula, INDIA

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003026863	A1	20030206
APPLICATION INFO.:	US 2001-825406	A1	20010403 (9)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	Cooper & Dunham LLP, 1185 Avenue of the Americas, New York, NY, 10036		
NUMBER OF CLAIMS:	19		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	5 Drawing Page(s)		
LINE COUNT:	618		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Accordingly the present invention provides a process for the preparation  
an alcoholic extract with Carotenoids, **UV** absorption,  
antibacterial and pH indicating properties from a deep-sea bacterium  
which comprises a method for growing the cells in a medium with salinity  
ranging from 1.5 to 3% for 3-4 days at 28 +/-2.degree. C. and harvesting  
them to prepare an extract which shows the properties of carotenoids  
(yellow/orange coloration), **UV** absorption, antibacterial and  
pH indicator properties.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L26 ANSWER 2 OF 3 USPATFULL on STN

ACCESSION NUMBER: 94:86519 USPATFULL

TITLE: **Sunscreen** compounds

INVENTOR(S): Bird, Graham, Victoria, Australia  
Fitzmaurice, Neil, Victoria, Australia  
Dunlap, Walter C., Queensland, Australia  
Chalker, Bruce E., Queensland, Australia  
Bandaranayake, Wickramasinghe M., Queensland, Australia  
PATENT ASSIGNEE(S): ICI Australia Operations Proprietary Limited,  
Melbourne, Australia (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5352793		19941004
APPLICATION INFO.:	US 1990-618610		19901127 (7)
RELATED APPLN. INFO.:	Division of Ser. No. US 1988-236530, filed on 26 May 1988, now patented, Pat. No. US 5100496		

	NUMBER	DATE
PRIORITY INFORMATION:	AU 1986-8208	19860926
	AU 1986-9230	19861125
DOCUMENT TYPE:	Utility	

09/830193

FILE SEGMENT: Granted  
PRIMARY EXAMINER: Cintins, Marianne M.  
ASSISTANT EXAMINER: Spivack, Phyllis G.  
LEGAL REPRESENTATIVE: Cushman, Darby & Cushman  
NUMBER OF CLAIMS: 11  
EXEMPLARY CLAIM: 1  
LINE COUNT: 1320

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to **sunscreen** compounds of formula I  
##STR1## wherein R.sup.1 is selected from alkyl, alkenyl, alkynyl  
substituted alkyl, substituted alkenyl, phenyl, substituted phenyl,  
substituted benzyl, cycloalkyl, cycloalkenyl, substituted cycloalkyl,  
substituted cycloalkenyl;

R.sup.2 is selected from hydrogen, alkyl and alkoxy;

R.sup.3 is selected from alkyl, substituted alkyl, alkenyl, substituted  
alkenyl, alkynyl, phenyl, benzoyl, substituted phenyl, substituted  
benzyl, substituted benzoyl, cycloalkyl, substituted cycloalkyl,  
cycloalkenyl, substituted cycloalkenyl, alkanyoyl, substituted alkanoyl,  
the group OROROR.sup.9 wherein R is a bivalent hydrocarbon radical and  
R.sup.9 is alkyl, alkenyl, phenyl benzyl, substituted phenyl,  
substituted benzyl;

R.sup.4 is alkyl or alkoxy;

n is an integer from 0 to 4; and

R.sup.5 and R.sup.6 are independently selected from alkyl, alkoxy,  
alkanoyl, alkanoyl substituted by hydroxyl or alkoxycarbonyl.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L26 ANSWER 3 OF 3 USPATFULL on STN

ACCESSION NUMBER: 91:22460 USPATFULL

TITLE: **Sunscreen** compositions and compounds for use  
therein

INVENTOR(S): Bird, Graham, 14 Roseberry Street, Ascot Vale 3032,  
Victoria, Australia  
Fitzmaurice, Neil, 44 Tooronga Road, Malvern East 3144,  
Victoria, Australia  
Dunlap, Walter C., 70 Cook Street, North Ward,  
Townsville 4810, Queensland, Australia  
Chalker, Bruce E., 3178 Eyre Street, North Ward,  
Townsville 4810, Queensland, Australia  
Bandaranayake, Wickramasinghe M., 12 Lupin Court,  
Annansdale, Murray, Townsville 4812, Queensland,  
Australia

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5000946		19910319
	WO 8802251		19880407
APPLICATION INFO.:	US 1988-236530		19880526 (7)
	WO 1987-AU330		19870925
			19880526 PCT 371 date
			19880526 PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	AU 1986-8208	19860926
	AU 1986-9230	19861128

DOCUMENT TYPE: Utility  
 FILE SEGMENT: Granted  
 PRIMARY EXAMINER: Ore, Dale R.  
 LEGAL REPRESENTATIVE: Cushman, Darby & Cushman  
 NUMBER OF CLAIMS: 5  
 EXEMPLARY CLAIM: 1  
 LINE COUNT: 1324

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to **sunscreen** compositions comprising an effective component at least one compound of formula I ##STR1## wherein R.sup.1 is selected from alkyl, alkenyl, alkynyl substituted alkyl, substituted alkenyl, phenyl, substituted phenyl, substituted benzyl, cycloalkyl, cycloalkenyl, substituted cycloalkyl, substituted cycloalkenyl and polymeric groups;

R.sup.2 is selected from hydrogen, alkyl and alkoxy; and wherein R.sup.1 and R.sup.2 may form a carbocyclic ring which may be substituted;

R.sup.3 is selected from alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, phenyl, benzoyl, substituted phenyl, substituted benzyl, substituted benzoyl, cycloalkyl, substituted cycloalkyl, cycloalkenyl, substituted cycloalkenyl, alkanyoyl, substituted alkanoyl, polymeric groups, the group OROROR.sup.9 wherein R is a bivalent hydrocarbon radical and R.sup.9 is alkyl, alkenyl, phenyl benzyl, substituted phenyl, substituted benzyl;

R.sup.4 is alkyl or alkoxy; n is an integer from 0 to 4; and

R.sup.5 and R.sup.6 are independently selected from alkyl, alkoxy, alkanoyl, alkanoyl substituted by hydroxyl or alkoxycarbonyl and R.sup.5 and R.sup.6 may form a spiro carbocyclic ring which may be substituted with alkyl;

and the invention also relates to novel compounds of formula I and to a method of screening a surface from ultraviolet radiation.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d 1-3 kwic

L26 ANSWER 1 OF 3 USPATFULL on STN

TI Process for the preparation of an extract with carotenoids, **UV** absorption, antibacterial and pH indicating properties from a deep-sea bacterium

AB Accordingly the present invention provides a process for the preparation an alcoholic extract with Carotenoids, **UV** absorption, antibacterial and pH indicating properties from a deep-sea bacterium which comprises a method for growing the cells in a . . . days at 28 +/-2.degree. C. and harvesting them to prepare an extract which shows the properties of carotenoids (yellow/orange coloration), **UV** absorption, antibacterial and pH indicator properties.

SUMM [0001] The present investigation relates to a process for the preparation of an extract with Carotenoids, **UV** absorption, antibacterial and pH indicating from a deep-sea bacterium for applications in food and cosmetic industries. The extract could be used as food and feed additives (colorant), food and feed preservatives and radio protective I **sunscreen** compound in cosmetics.

SUMM . . . broth is extracted and purified to form a clear solution. The cosmetic is useful for whitening skin, or as a **sunscreen**. In an example G172 was grown at 25 deg for 5 days, centrifuged and maintained at -20 deg overnight to. . .



- SUMM . . . Japanese Patent No.JP07010736; 13.01.95; 128:66319 Coupland, Keith; Packer, Clarie Elizabeth (Croda International PLC; Coupland, Keith; Packer, Claire Elizabeth, UK) titled: "**Sunscreen** compositions comprising stearidonic acid and derivatives in combination with a **UV** blocking and/or absorbing material", describes "A **sunscreen** composition comprising a stearidonic acid, or a physiol. deriv. thereof, in combination with a **UV** blocking and/or **UV** absorbing material, is claimed. Also stearidonic acid may be used to treat inflammation caused by exposure to **UV** radiation, by exposure to sunlight or by burns. Thus, 10 kg of the seeds of *Echium plantagineum* were crushed and. . . 1741 g of golden yellow oil. The oil was converted to the corresponding fatty acid Me esters and used in **sunscreens**. A **sunscreen** oil was prepared containing Bu methoxydibenzoyl methane 2.0, octyl methoxy-cinnamate 7.5, benzophenone-3 4 5, PPG-2 myristyl ether propionate 10.0, above. . .
- SUMM [0012] Most of the commercially available **UV**-blocking compounds in skin cream (**sunscreen**) are synthetic and the search for natural compounds with equal or greater efficiency is becoming more significant because of the. . .
- SUMM [0013] The **UV**-absorbing properties of either the organisms or the extract have been extensively studied in higher plants, corals, cyanobacteria and other phytoplankton. Reference may be made to an **UV** absorbing (310 nm) compound that has been characterised from stem, bark and roots of mangrove plant, *Heritiera littoralis* (Bandaranayake W. . . Australia. Aust Inst Mar Sci Rep Townsville, Old Australia AIMS 19, 28pp). The hyperoxic tissues of coral reefs also produce **UV** absorbing **mycosporine** like compounds (Dunlap W C Shick J M 1998. Ultraviolet radiation absorbing **mycosporine**-like amino acids in coral reef organisms: A biochemical and environmental perspective. J.Phycol. 34(3), 418-430). The induction and protective role of the **UV**-absorbing compounds such as **mycosporine**-like amino acids (MAAs) have been noted even in Florideophyceae (Franklin L A, Yakovleva.I, Karsten U, Luenig, K 1999. Synthesis of. . . also known to possess intense carotenoid pigments to protect themselves against intense solar radiation. Some algae have other type of **UV**-absorbing (**sunscreen**) pigments like scytonemin (Proteau ,P. J., Gerwick, W. H. Garcia-Pichel F. Castenholz 1993. The structure of scytonemin an ultraviolet **sunscreen** pigment from the sheath of cyanobacteria. Experientia 49, 825-829). These **UV** absorbing compounds are also known to be produced under photoinductive conditions and are dependant on temporal factors (Hannach G, Sigleo A C 1998. Photoinduction of **UV** absorbing compounds in six species of marine phytoplankton. Mar. Ecol. Prog Ser 174; 207-222). Though a number of papers have. . . publications on this aspect of bacteria (Arai T. Nishijima M, Adachi K Sano H 1992. Isolation and structure of a **UV** absorbing substance from the marine bacterium *Micrococcus* sp AK 334. Marine Biotech Inst Rep. Pp88-94 Japan). **Sunscreen** compositions comprising natural products of marine hydroid and derivatives thereof have been patented as useful **sunscreening** agents (lindquist, N. l. 1998 U.S. Pat. No. 5,705,146). A **sunscreen**/radioprotective compound has also been patented from fungus *Aspergillus versicolor* FK17 95-03294 (JP-06329576). Though bacteria possess a number of pigments that are supposedly photo protective only a few have been used for extracting **UV** A and B absorbing components. A fat-soluble **UV** absorbing compound F-1547 from *Paracoccus* sp has been patented (JP-1 1269175). A process for producing **UV** absorbing **mycosporine**-like aminoacids (MAA) from *Micrococcus* sp has also been developed (JP-06062878-A).
- SUMM . . . objects of the present investigation are to provide a process for the preparation of an alcoholic extract, having Carotenoids

property, **UV** absorption, antibacterial and pH indicating properties.

SUMM [0021] Accordingly the present invention provides a process for the preparation an alcoholic extract with Carotenoids, **UV** absorption, antibacterial and pH indicating properties from a deep-sea bacterium which comprises a method for growing the cells in a . . . 3-4 days at 28+/-2.degree. C. and harvesting them to prepare an extract which shows the properties of carotenoids (yellow/orange coloration), **UV** absorption, antibacterial and pH indicator properties.

SUMM . . . at 500 atm and at 1 atm pressure and the petroleum ether fraction of the bacterium when scanned in an **UV** visible spectrometer shows characteristic peaks at 448 nm with shoulders at 430 and 470 nm, which is similar to the. . .

SUMM [0024] In another embodiment of the invention, the alcoholic extract of the said bacterium having carotenoids, **UV** absorption, anti bacterial, pH indicating properties.

SUMM . . . different uses. The native extract of the culture is a pigment complex, which is yellow to orange in colour, has **UV** absorbing property and is antibacterial against some of the Gram-positive and Gram-negative bacteria.

SUMM . . . inventors has led to the preparation of single extract from a single bacterial isolate which shows multiple properties of colour, **UV** absorption, antibacterial property against both Gram-positive and Gram-negative bacteria, and pH indicator property. As a food additive, the preparation would. . .

SUMM . . . 1.5% NaCl, extracting with alcohol for 2-3 times and obtaining an extract which shows the properties of carotenoids (yellow/orange colour), **UV** absorption, antibacterial and pH indicator. In another embodiment, the solvent used for extraction is an alcohol preferably methanol. In still another embodiment, the extract is used as **UV** (A, B, C) absorbing compound. In still another embodiment, the extract inhibits growth of Gram-positive and Gram-negative bacteria.

SUMM [0030] The present invention provides a process for the preparation an alcoholic extract with Carotenoids, **UV** absorption, antibacterial and pH indicating properties from a deep-sea bacterium for use in food and cosmetic industries which comprises a. . . for 3-4 days 28+/-2.degree. C. and harvesting them to prepare an extract which shows the properties of carotenoids (yellow/orange coloration), **UV** absorption, antibacterial and pH indicator properties.

SUMM [0032] In another embodiment of the present invention, the extract possesses **UV** absorbing property. In yet another embodiment of the present invention, the extract has antibacterial agent characteristics.

SUMM [0035] In another embodiment of the invention provides a composition for a **sunscreen** compound, said composition comprising, 25 to 75 mg methanolic extract of the bacterium claimed in claim 1, with 4 to. . .

DETD . . . as shown in Example 1 was partitioned with 10-ml petroleum ether and scanned from 260 to 550 nm in a **UV**-visible spectrometer. In petroleum ether, peaks at 448 nm with shoulders at 430 and 470 nm showed that it is a. . .

DETD . . . extractas shown in Example 1 was diluted to 4 ml with 100% methanol and scanned from 280 to 400 nm. **UV** absorbing property between 280 to 380 nm was observed with a peak at 340 nm (UVA). This property can also. . .

DETD . . . - - - +

2 antibacterial +/- + + + +/-

G +ve and

G -ve

3 **UV** - - - - +

	absorbing compound							
4	UV +	-	-	-	-	-	+	-
	Color							
5	UV +	-	-	-	-	-	+	-
	antimicrobial							
6	UV +	-	-	-	-	-	+	-
	Antimicrobial	+	-	-	-	-		-
	Color			+				

Ref:. . .

CLM What is claimed is:

- . . . 3. Novel bacterium as claimed in claim 1 wherein, the petroleum ether fraction of the bacterium when scanned in an UV visible spectrometer shows characteristic peaks at 448 nm with shoulders at 430 and 470 nm, which is similar to the. . .
4. Novel bacterium as claimed in claim 1 wherein, the alcoholic extract of the said bacterium having carotenoids, UV absorption, anti bacterial, pH indicating properties.

- . . . NaCl, extracting with alcohol for 2- 3 times and obtaining an extract which shows the properties of carotenoids (yellow/orange colour), UV absorption, antibacterial and pH indicator.

8. A process as claimed in claim 6 wherein, the extract is used as UV (A, B, C) absorbing compound.

11. A composition for a **sunscreen** compound, said composition comprising, 25 to 75 mg methanolic extract of the bacterium claimed in claim 1, with 4 to. . .

L26 ANSWER 2 OF 3 USPTAFULL on STN

TI **Sunscreen** compounds

AB The invention relates to **sunscreen** compounds of formula I  
##STR1## wherein R.sup.1 is selected from alkyl, alkenyl, alkynyl  
substituted alkyl, substituted alkenyl, phenyl, substituted phenyl,. . .

SUMM The invention relates to **sunscreen** compositions comprising ultra-violet radiation absorbing compounds to methods of preparing such compositions, and to UV-absorbing compounds of particular use in preparing such compositions.

SUMM **Sunscreen** compositions may be used to form a coating for protecting substrates from harmful effects of ultraviolet radiation such as in solar radiation. For example, **sunscreen** compositions are probably best known for use in the protection of skin against severe erythra edema which can be caused. . .

SUMM Common commercially available UV-agents include, for example, para-aminobenzoic acid derivatives, benzotriazoles, benzophenones, methoxycinnamates and salicylates. It has been proposed, for example in U.K. Patent. . . 2,120,549A and French Patent Application 8301391, that certain specific classes of vinylagous amide compounds (enaminoketones) may also be used as UV-absorbing **sunscreen** agents.

SUMM We have observed that certain **mycosporine** amino acids which exist in the living tissue of the Pacific staghorn coral *Acropora formosa* are functional UV-absorbing agents (.lambda.max 310-332 nm) in corals inhabiting the shallow-water, tropical coral reef environment. While these naturally occurring enaminoketone compounds

appear to be potentially attractive as commercial **UV**-agents, their utility is questionable because of the difficulty of isolating them from their biological source and because of their lack. . . We have proposed that certain synthetic vinylagous amide analogues of those natural products can be prepared which preserves their characteristic **UV**-absorbing chromophore within a chemically more stable structure and which typically have **UV**-absorption maxima ( $\lambda_{max}$ ) in the wavelength region 288-340 nanometers (P.C.T. Patent Application PCT/AU85/00242). These synthetic analogues, however, proved to be chemically. . .

- SUMM . . . that a select group of cyclic vinylagous amide compounds which comprise a tetrahydropyridine moiety are particularly suitable for use in **sunscreen** compositions.
- SUMM Accordingly we provide a **sunscreen** composition comprising as an effective component thereof at least one compound of formula I ##STR2## wherein: R.sup.1 is selected from. . .
- SUMM In a further embodiment of the invention, there is provided a method of preparation of a **sunscreen** composition comprising mixing at least one compound of formula I with a carrier suitably adapted to allow application of said. . .
- SUMM One group of compounds of the invention which may be used in preparation of **sunscreen** compositions include compounds of formula Ia ##STR19## wherein
- SUMM The **UV**-B region of ultra violet radiation (290-320 nm) has long been known to cause damage to skin but more recently concern has been expressed over the effect of **UV**-A radiation (above 320 nm).
- SUMM . . . the present invention may be prepared comprising one or more compounds of formula I and may provide screening in the **UV**-A region, the **UV**-B region or in both of these regions.
- SUMM A specific example of a **sunscreen** formulation which may be used in preparation of compositions of the present invention includes the following

<b>Sunscreen</b> lotion composition	
	% w/w
Methyl para-hydroxy benzoate	0.25
Propyl para-hydroxy benzoate	0.10
Cetyl/Stearyl 2-Ethylhexanoate	2.00
"CARBOMER" 491 thickener (cross linked acrylic acid polymer)	0.45
Phenyl trimethicone	1.00
Stearic Acid	3.00
Sodium Hydroxide	0.15
Phenoxyethanol	0.30
Isopropyl Isostearate	5.00
Antioxidant (BHA, BHT, ascorbates, tocopherols)	0.08
Glyceryl Monostearate & PEG 100 Stearate	1.00
Fragrance	0.10
<b>Sunscreen</b> Compound	6.00
Disodium EDTA	0.05
Treated water	80.52

("CARBOMER" is a trade mark)

Com- pound No.	Appearance	UV spectra .lambda.max (nm)	'H N.M.R. log E .delta. in ppm (CDCl.sub.3)
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1	pale yellow	312	4.47 1.20 s 3H
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DETD **Sunscreen** compositions were prepared using the components shown in table 2.

L26 ANSWER 3 OF 3 USPATFULL on STN

TI **Sunscreen** compositions and compounds for use therein

AB The invention relates to **sunscreen** compositions comprising an effective component at least one compound of formula I ##STR1## wherein R.sup.1 is selected from alkyl, alkenyl, . . .

SUMM The invention relates to **sunscreen** compositions comprising ultra-violet radiation absorbing compounds to methods of preparing such compositions, and to UV-absorbing compounds of particular use in preparing such compositions.

SUMM **Sunscreen** compositions may be used to form a coating for protecting substrates from harmful effects of ultraviolet radiation such as in solar radiation. For example, **sunscreen** compositions are probably best known for use in the protection of skin against severe erythra edema which can be caused. . . .

SUMM Common commercially available UV-agents include, for example, para-aminobenzoic acid derivatives, benzotriazoles, benzophenones, methoxycinnamates and salicylates. It has been proposed, for example in U.K. Pat. . . . and French Pat. application No. 8301391, that certain specific classes of vinylagous amide compounds (enaminoketones) may also be used as UV-absorbing **sunscreen** agents.

SUMM We have observed that certain **mycosporine** amino acids which exist in the living tissue of the Pacific staghorn coral *Acropora formosa* are functional UV-absorbing agents (.lambda.max 310-332 nm) in corals inhabiting the shallow-water, tropical coral reef environment. While these naturally occurring enaminoketone compounds appear to be potentially attractive as commercial UV-agents, their utility is questionable because of the difficulty of isolating them from their biological source and because of their lack. . . . We have proposed that certain synthetic vinylagous amide analogues of those natural products can be prepared which preserves their characteristic UV-absorbing chromophore within a chemically more stable structure and which typically have UV-absorption maxima (.lambda.max) in the wavelength region 288-340 nanometers (P.C.T. Pat. application No. PCT/AU85/00242) These synthetic analogues, however, proved to be. . . .

SUMM . . . that a select group of cyclic vinylogous amide compounds which comprise a tetrahydropyridine moiety are particularly suitable for use in **sunscreen** compositions.

SUMM Accordingly we provide a **sunscreen** composition comprising as an effective component thereof at least one compound of formula I ##STR2## wherein: R.sup.1 is selected from. . . .

SUMM In a further embodiment of the invention, there is provided a method of preparation of a **sunscreen** composition comprising mixing at least one compound of formula I with a carrier suitably adapted to allow application of said. . . .

SUMM One group of compounds of the invention which may be used in preparation of **sunscreen** compositions include compounds of formula Ia ##STR20## wherein R.sup.3, R.sup.4, R.sup.5 and R.sup.6 are as hereinbefore defined in relation to. . . .

SUMM The UV-B region of ultra violet radiation (290-320 nm) has long been known to cause damage to skin but more recently concern has been expressed over the effect of UV-A radiation (above 320

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nm).  
SUMM . . . the present invention may be prepared comprising one or more compounds of formula I and may provide screening in the UV-A region, the UV-B region or in both of these regions.  
SUMM A specific example of a **sunscreen** formulation which may be used in preparation of compositions of the present invention includes the following

Sunscreen lotion composition	
	% w/w
Methy para-hydroxy benzoate	0.25
Propyl para-hydroxy benzoate	0.10
Cetyl/Stearyl 2-Ethylhexanoate	2.00
"CARBOMER" 491 thickener (cross linked acrylic acid polymer)	0.45
Phenyl trimethicone	1.00
Stearic Acid	3.00
Sodium Hydroxide	0.15
Phenoxyethanol	0.30
Isopropyl Isostearate	5.00
Antioxidant (BHA, BHT, ascorbates, tocopherols)	0.08
Glyceryl Monostearate & PEG 100 Stearate	1.00
Fragrance	0.10
Sunscreen Compound	6.00
Disodium EDTA	0.05
Treated water	80.52

("CARBOMER" is a trade mark)

DETD

TABLE 2

		UV spectra	
Compound		.lambda. max	'H N.M.R.
No.	Appearance (nm)	log E	.delta. in ppm (CDCl.sub.3)

1 pale yellow

312 4.47 1.20 s. . .

DETD **Sunscreen** compositions were prepared using the components shown in table 2.

CLM What is claimed is:

1. A **sunscreen** composition comprising an effective **sunscreening** amount of at least one compound of formula I. ##STR45## wherein: R.sup.1 is selected from the group consisting of: C.sub.1. . . .
2. A **sunscreen** composition according to claim 1 wherein in the compound of formula I: R.sup.1 is selected from the group consisting of: . . .

=> d his

(FILE 'HOME' ENTERED AT 12:06:56 ON 22 SEP 2003)

FILE 'USPATFULL' ENTERED AT 12:07:21 ON 22 SEP 2003

09/830193

L1 127629 S SUNSCREEN? OR UV  
L2 2960 S CAROTENOID?  
L3 1152 S L1 AND L2  
L4 941 S POLYPHENOLIC  
L5 8 S L3 AND L4  
L6 1 S US5712311/PN  
L7 1 S L6 AND L2  
L8 0 S L4 AND L7  
L9 7 S SCYTONEMIN  
L10 122030 S AMINO ACID?  
L11 0 S L10 AND L6  
L12 1 S US5422247/PN  
L13 1 S US3920834/PN  
L14 1 S L12 AND L2  
L15 1 S L13 AND L2  
L16 0 S L10 AND L15  
L17 0 S L13 AND L10  
L18 1 S L12 AND L10  
L19 45380 S TRYPTOPHAN? OR TYROSINE?  
L20 404 S L3 AND L19  
L21 0 S L20 AND L9  
L22 7 S L9 AND L1  
L23 2 S L4 AND L20  
L24 0 S L4 AND L12  
L25 3 S MYCOSPORINE?  
L26 3 S L25 AND L1

=> s 15 and 19

L27 0 L5 AND L9

=> s phenolic and l12

65340 PHENOLIC

L28 0 PHENOLIC AND L12

=> s algae

L29 10772 ALGAE

=> s algae? or plant?

11023 ALGAE?

244947 PLANT?

L30 249499 ALGAE? OR PLANT?

=> s l30 and l12

L31 1 L30 AND L12

=> d kwic

L31 ANSWER 1 OF 1 USPATFULL on STN

PI US 5422247 19950606

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SUMM . . . it is preferable to use biological sources to produce beta-carotene. The carotenoid is known to be synthesized by most green **plants** as well as by certain **algae** (e.g., *Dunaliella*), fungi (e.g., Ascomycetes and Deuteromycetes), cyanobacteria and photosynthetic bacteria. Naturally-occurring Zygomycetes of the order Mucorales, family Choanephoraceae, which. . .

DETD . . . to: inorganic nitrogen compounds, such as ammonium salts; and substances of animal, vegetable and/or microbial origin, such as animal fats, **plant** oils, protein hydrolysates, microbial biomass hydrolysates, soy meal, fish meal, meat meal, meat extract, peptone, tryptone, corn steep liquor, yeast. . .

DETD . . . which can degrade or otherwise inactivate light-sensitive compounds, and which can cause tissue damage (including cell and organ

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damage) in **plants** and animals. An effective amount of beta-carotene is an amount which effectively prevents or reduces damage caused by reactive oxygen. . .

=> s cyanobacteri?

L32 1227 CYANOBACTERI?

=> s l32 and l12

L33 1 L32 AND L12

=> d kwic

L33 ANSWER 1 OF 1 USPATFULL on STN

PI US 5422247 19950606

<--

SUMM . . . to be synthesized by most green plants as well as by certain algae (e.g., Dunaliella), fungi (e.g., Ascomycetes and Deuteromycetes), **cyanobacteria** and photosynthetic bacteria. Naturally-occurring Zygomycetes of the order Mucorales, family Choanephoraceae, which includes the genera Blakeslea, Choanephora, Mucor, Parasitella, Phycomyces, . . .

=> d his

(FILE 'HOME' ENTERED AT 12:06:56 ON 22 SEP 2003)

FILE 'USPATFULL' ENTERED AT 12:07:21 ON 22 SEP 2003

L1 127629 S SUNSCREEN? OR UV  
L2 2960 S CAROTENOID?  
L3 1152 S L1 AND L2  
L4 941 S POLYPHENOLIC  
L5 8 S L3 AND L4  
L6 1 S US5712311/PN  
L7 1 S L6 AND L2  
L8 0 S L4 AND L7  
L9 7 S SCYTONEMIN  
L10 122030 S AMINO ACID?  
L11 0 S L10 AND L6  
L12 1 S US5422247/PN  
L13 1 S US3920834/PN  
L14 1 S L12 AND L2  
L15 1 S L13 AND L2  
L16 0 S L10 AND L15  
L17 0 S L13 AND L10  
L18 1 S L12 AND L10  
L19 45380 S TRYPTOPHAN? OR TYROSINE?  
L20 404 S L3 AND L19  
L21 0 S L20 AND L9  
L22 7 S L9 AND L1  
L23 2 S L4 AND L20  
L24 0 S L4 AND L12  
L25 3 S MYCOSPORINE?  
L26 3 S L25 AND L1  
L27 0 S L5 AND L9  
L28 0 S PHENOLIC AND L12  
L29 10772 S ALGAE  
L30 249499 S ALGAE? OR PLANT?  
L31 1 S L30 AND L12  
L32 1227 S CYANOBACTERI?  
L33 1 S L32 AND L12



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=> s l1 and l9  
L34 7 L1 AND L9

=> s l2 and l34  
L35 4 L2 AND L34

=> d 1-4 ibib abs

L35 ANSWER 1 OF 4 USPATFULL on STN

ACCESSION NUMBER: 2003:37219 USPATFULL

TITLE: Process for the preparation of an extract with  
**carotenoids**, **UV** absorption,  
antibacterial and pH indicating properties from a  
deep-sea bacterium

INVENTOR(S): Bharathi, Ponnappakkam Adikesavan Loka, Dona Paula,  
INDIA  
Nair, Shanta, Dona Paula, INDIA  
Chandramohan, Dorairajasingham, Dona Paula, INDIA

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003026863	A1	20030206
APPLICATION INFO.:	US 2001-825406	A1	20010403 (9)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	Cooper & Dunham LLP, 1185 Avenue of the Americas, New York, NY, 10036		
NUMBER OF CLAIMS:	19		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	5 Drawing Page(s)		
LINE COUNT:	618		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Accordingly the present invention provides a process for the preparation  
an alcoholic extract with **Carotenoids**, **UV**  
absorption, antibacterial and pH indicating properties from a deep-sea  
bacterium which comprises a method for growing the cells in a medium  
with salinity ranging from 1.5 to 3% for 3-4 days at 28 +/-2.degree. C.  
and harvesting them to prepare an extract which shows the properties of  
**carotenoids** (yellow/orange coloration), **UV** absorption,  
antibacterial and pH indicator properties.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L35 ANSWER 2 OF 4 USPATFULL on STN

ACCESSION NUMBER: 96:31578 USPATFULL

TITLE: Indole alkaloids useful as **UV** protective and  
anti-inflammatory agents

INVENTOR(S): Gerwick, William H., Corvallis, OR, United States  
Castenholz, Richard, Elmira, OR, United States  
Garcia-Pichel, Ferran, Breman, Germany, Federal  
Republic of

PROTEAU, Philip J., Murray, UT, United States  
PATENT ASSIGNEE(S): The Regents Of The University Of California, Oakland,  
CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5508026		19960416
APPLICATION INFO.:	US 1995-503448		19950717 (8)
RELATED APPLN. INFO.:	Division of Ser. No. US 1994-297022, filed on 29 Aug 1994, now patented, Pat. No. US 5461070		
DOCUMENT TYPE:	Utility		

09/830193

FILE SEGMENT: Granted  
PRIMARY EXAMINER: Ramsuer, Robert W.  
LEGAL REPRESENTATIVE: Poms, Smith, Lande & Rose  
NUMBER OF CLAIMS: 5  
EXEMPLARY CLAIM: 1  
LINE COUNT: 374

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Indole alkaloid compounds having the formula ##STR1## where R and R' are H, an alkyl group having up to 5 carbon atoms or --CO--(CH.sub.2).sub.n --CH.sub.3 where n=0 to 16. The indole alkaloid compounds and their reduction products are useful as both UV protective and anti-inflammatory agents.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L35 ANSWER 3 OF 4 USPATFULL on STN

ACCESSION NUMBER: 96:20887 USPATFULL  
TITLE: Indole alkaloids useful as UV protective and anti-inflammatory agents  
INVENTOR(S): Gerwick, William H., Corvallis, OR, United States  
Jacobs, Robert S., Santa Barbara, CA, United States  
Castenholz, Richard, Elmira, OR, United States  
Garcia-Pichel, Ferran, Bremen, Germany, Federal Republic of  
Grace, Krista J. S., Goleta, CA, United States  
Proteau, Philip J., Murray, UT, United States  
Rossi, James, Corvallis, OR, United States  
PATENT ASSIGNEE(S): The Regents of the University of California, Oakland, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5498405		19960312
APPLICATION INFO.:	US 1995-503384		19950717 (8)
RELATED APPLN. INFO.:	Division of Ser. No. US 1994-297022, filed on 29 Aug 1994, now patented, Pat. No. US 5461070		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
ASSISTANT EXAMINER:	Ramsuer, Robert W.		
LEGAL REPRESENTATIVE:	Poms, Smith, Lande & Rose		
NUMBER OF CLAIMS:	13		
EXEMPLARY CLAIM:	1		
LINE COUNT:	399		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Indole alkaloid compounds having the formula ##STR1## where R and R' are H, an alkyl group having up to 5 carbon atoms or --CO--(CH.sub.2).sub.n --CH.sub.3 where n=0 to 16. The indole alkaloid compounds and their reduction products are useful as both UV protective and anti-inflammatory agents.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L35 ANSWER 4 OF 4 USPATFULL on STN

ACCESSION NUMBER: 95:94936 USPATFULL  
TITLE: Anti-inflammatory method using indole alkaloids  
INVENTOR(S): Gerwick, William H., Corvallis, OR, United States  
Jacobs, Robert S., Santa Barbara, CA, United States  
Castenholz, Richard, Elmira, OR, United States  
Garcia-Pichel, Ferran, Bremen, Germany, Federal Republic of  
Grace, Krista J. S., Goleta, CA, United States  
Proteau, Philip J., Murray, UT, United States

09/830193

PATENT ASSIGNEE(S): Rossi, James, Corvallis, OR, United States  
The Regents of the University of California, Oakland,  
CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5461070		19951024
APPLICATION INFO.:	US 1994-297022		19940829 (8)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Rainsuer, Robert W.		
LEGAL REPRESENTATIVE:	Poms, Smith, Lande & Rose		
NUMBER OF CLAIMS:	6		
EXEMPLARY CLAIM:	1		
LINE COUNT:	380		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Indole alkaloid compounds having the formula ##STR1## where R and R' are H, an alkyl group having up to 5 carbon atoms or --CO--(CH.sub.2).sub.n --CH.sub.3 where n=0 to 16. The indole alkaloid compounds and their reduction products are useful as both UV protective and anti-inflammatory agents.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> s us5508026/pn  
L36 1 US5508026/PN

=> d his

(FILE 'HOME' ENTERED AT 12:06:56 ON 22 SEP 2003)

FILE 'USPATFULL' ENTERED AT 12:07:21 ON 22 SEP 2003

L1 127629 S SUNSCREEN? OR UV  
L2 2960 S CAROTENOID?  
L3 1152 S L1 AND L2  
L4 941 S POLYPHENOLIC  
L5 8 S L3 AND L4  
L6 1 S US5712311/PN  
L7 1 S L6 AND L2  
L8 0 S L4 AND L7  
L9 7 S SCYTONEMIN  
L10 122030 S AMINO ACID?  
L11 0 S L10 AND L6  
L12 1 S US5422247/PN  
L13 1 S US3920834/PN  
L14 1 S L12 AND L2  
L15 1 S L13 AND L2  
L16 0 S L10 AND L15  
L17 0 S L13 AND L10  
L18 1 S L12 AND L10  
L19 45380 S TRYPTOPHAN? OR TYROSINE?  
L20 404 S L3 AND L19  
L21 0 S L20 AND L9  
L22 7 S L9 AND L1  
L23 2 S L4 AND L20  
L24 0 S L4 AND L12  
L25 3 S MYCOSPORINE?  
L26 3 S L25 AND L1  
L27 0 S L5 AND L9  
L28 0 S PHENOLIC AND L12  
L29 10772 S ALGAE

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L30 249499 S ALGAE? OR PLANT?  
L31 1 S L30 AND L12  
L32 1227 S CYANOBACTERI?  
L33 1 S L32 AND L12  
L34 7 S L1 AND L9  
L35 4 S L2 AND L34  
L36 1 S US5508026/PN

=> s l36 and l1

L37 1 L36 AND L1

=> s l37 and l2

L38 1 L37 AND L2

=> s l38 and l9

L39 1 L38 AND L9

=> s l10 and l39

L40 0 L10 AND L39

=> s l12 and l10

L41 1 L12 AND L10

=> d kwic

L41 ANSWER 1 OF 1 USPATFULL on STN

PI US 5422247 19950606

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DETD . . . hydrolysates, microbial biomass hydrolysates, soy meal, fish meal, meat meal, meat extract, peptone, tryptone, corn steep liquor, yeast extract, and **amino acids**.

=> d l26 1-3 ibib abs

L26 ANSWER 1 OF 3 USPATFULL on STN

ACCESSION NUMBER: 2003:37219 USPATFULL

TITLE: Process for the preparation of an extract with carotenoids, **UV** absorption, antibacterial and pH indicating properties from a deep-sea bacterium  
INVENTOR(S): Bharathi, Ponnappakkam Adikesavan Loka, Dona Paula, INDIA

Nair, Shanta, Dona Paula, INDIA

Chandramohan, Dorairajasingham, Dona Paula, INDIA

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003026863	A1	20030206
APPLICATION INFO.:	US 2001-825406	A1	20010403 (9)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	Cooper & Dunham LLP, 1185 Avenue of the Americas, New York, NY, 10036		
NUMBER OF CLAIMS:	19		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	5 Drawing Page(s)		
LINE COUNT:	618		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Accordingly the present invention provides a process for the preparation an alcoholic extract with Carotenoids, **UV** absorption, antibacterial and pH indicating properties from a deep-sea bacterium which comprises a method for growing the cells in a medium with salinity ranging from 1.5 to 3% for 3-4 days at 28 +/-2.degree. C. and harvesting

them to prepare an extract which shows the properties of carotenoids (yellow/orange coloration), UV absorption, antibacterial and pH indicator properties.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L26 ANSWER 2 OF 3 USPATFULL on STN

ACCESSION NUMBER: 94:86519 USPATFULL

TITLE: **Sunscreen** compounds

INVENTOR(S): Bird, Graham, Victoria, Australia  
Fitzmaurice, Neil, Victoria, Australia  
Dunlap, Walter C., Queensland, Australia  
Chalker, Bruce E., Queensland, Australia  
Bandaranayake, Wickramasinghe M., Queensland, Australia  
PATENT ASSIGNEE(S): ICI Australia Operations Proprietary Limited,  
Melbourne, Australia (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5352793		19941004
APPLICATION INFO.:	US 1990-618610		19901127 (7)
RELATED APPLN. INFO.:	Division of Ser. No. US 1988-236530, filed on 26 May 1988, now patented, Pat. No. US 5100496		

	NUMBER	DATE
PRIORITY INFORMATION:	AU 1986-8208	19860926
	AU 1986-9230	19861125
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Cintins, Marianne M.	
ASSISTANT EXAMINER:	Spivack, Phyllis G.	
LEGAL REPRESENTATIVE:	Cushman, Darby & Cushman	
NUMBER OF CLAIMS:	11	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1320	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to **sunscreen** compounds of formula I  
##STR1## wherein R.sup.1 is selected from alkyl, alkenyl, alkynyl  
substituted alkyl, substituted alkenyl, phenyl, substituted phenyl,  
substituted benzyl, cycloalkyl, cycloalkenyl, substituted cycloalkyl,  
substituted cycloalkenyl;

R.sup.2 is selected from hydrogen, alkyl and alkoxy;

R.sup.3 is selected from alkyl, substituted alkyl, alkenyl, substituted  
alkenyl, alkynyl, phenyl, benzoyl, substituted phenyl, substituted  
benzyl, substituted benzoyl, cycloalkyl, substituted cycloalkyl,  
cycloalkenyl, substituted cycloalkenyl, alkanyoyl, substituted alkanoyl,  
the group OROROR.sup.9 wherein R is a bivalent hydrocarbon radical and  
R.sup.9 is alkyl, alkenyl, phenyl benzyl, substituted phenyl,  
substituted benzyl;

R.sup.4 is alkyl or alkoxy;

n is an integer from 0 to 4; and

R.sup.5 and R.sup.6 are independently selected from alkyl, alkoxy,  
alkanoyl, alkanoyl substituted by hydroxyl or alkoxycarbonyl.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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L26 ANSWER 3 OF 3 USPATFULL on STN

ACCESSION NUMBER: 91:22460 USPATFULL

TITLE: **Sunscreen** compositions and compounds for use therein

INVENTOR(S): Bird, Graham, 14 Roseberry Street, Ascot Vale 3032, Victoria, Australia  
Fitzmaurice, Neil, 44 Tooronga Road, Malvern East 3144, Victoria, Australia  
Dunlap, Walter C., 70 Cook Street, North Ward, Townsville 4810, Queensland, Australia  
Chalker, Bruce E., 3178 Eyre Street, North Ward, Townsville 4810, Queensland, Australia  
Bandaranayake, Wickramasinghe M., 12 Lupin Court, Annansdale, Murray, Townsville 4812, Queensland, Australia

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5000946		19910319
	WO 8802251		19880407
APPLICATION INFO.:	US 1988-236530		19880526 (7)
	WO 1987-AU330		19870925
			19880526 PCT 371 date
			19880526 PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	AU 1986-8208	19860926
	AU 1986-9230	19861128
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Ore, Dale R.	
LEGAL REPRESENTATIVE:	Cushman, Darby & Cushman	
NUMBER OF CLAIMS:	5	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1324	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to **sunscreen** compositions comprising an effective component at least one compound of formula I ##STR1## wherein R.sup.1 is selected from alkyl, alkenyl, alkynyl substituted alkyl, substituted alkenyl, phenyl, substituted phenyl, substituted benzyl, cycloalkyl, cycloalkenyl, substituted cycloalkyl, substituted cycloalkenyl and polymeric groups;

R.sup.2 is selected from hydrogen, alkyl and alkoxy; and wherein R.sup.1 and R.sup.2 may form a carbocyclic ring which may be substituted;

R.sup.3 is selected from alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, phenyl, benzoyl, substituted phenyl, substituted benzyl, substituted benzoyl, cycloalkyl, substituted cycloalkyl, cycloalkenyl, substituted cycloalkenyl, alkanyoyl, substituted alkanoyl, polymeric groups, the group OROROR.sup.9 wherein R is a bivalent hydrocarbon radical and R.sup.9 is alkyl, alkenyl, phenyl benzyl, substituted phenyl, substituted benzyl;

R.sup.4 is alkyl or alkoxy; n is an integer from 0 to 4; and

R.sup.5 and R.sup.6 are independently selected from alkyl, alkoxy, alkanoyl, alkanoyl substituted by hydroxyl or alkoxycarbonyl and R.sup.5 and R.sup.6 may form a spiro carbocyclic ring which may be substituted with alkyl;